

# Homework Assignment 4

Due by 5pm via Canvas, Feb 17

SDS 321 Intro to Probability and Statistics

- (1+3 pts) A committee of 6 is to be selected from 10 men and 10 women. If every configuration is equally likely, what is the probability that,
  - the committee contains equal number of men and women?
  - more than half of the committee are women?
- (1+1) An urn contains 4 red, 8 blue, and 10 green balls. I pick a set of 3 balls without replacement. What is the probability that each of the balls will be,
  - of the same color?
  - of different colors?
- (2+2) Alice and Bob are sitting with eight of their friends. What is the probability that Alice and Bob will sit together if they
  - sit in a line?
  - sit in a circle?
- (2+4+4) I am building a 5 digit number (without repetitions) by **arranging** the digits  $\{1, 2, 3, 4, 5\}$ . Consider that each configuration is equally likely. What is the probability that:
  - There is exactly one digit between '1' and '2'?
  - There are exactly two digits between '1' and '2'?
  - There are exactly three digits between '1' and '2'?